



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/670,884 09/27/00 TIRADO

J D/A0571

EXAMINER

PM82/0316

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SCHLAK, D  
ART UNIT

PAPER NUMBER

3

3653  
DATE MAILED:

03/16/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

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**Office Action Summary**

Application No.

09/670,884

Applicant(s)

Tirado et al.

Examiner

Daniel K Schlak

Art Unit

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 September 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9, 22 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 22 recite "the particle outlet opening" in lines 3. There is insufficient antecedent basis for this limitation in the claims.

Mostly, the indefiniteness arises because claims 1 and 22 are subcombination claims directed to the disk only. However, the third line of each claim recites a classifier wheel, which is not included within the limitation of the preamble. Therefore, the recitation "adapted to concentrically attach the disk to the particle outlet opening of a classifier wheel" is only considered an intended use for rejections made herein. However, this indefiniteness must be removed prior to issuance of the claims. If the claims are left unchanged, the examiner will continue to interpret the limitations as intended use only, and will be forced to reject the claims based upon disks which have nothing to do with classifier wheels. If the claim is changed to include the combination (classifier wheel) in the preamble, examination will be greatly aided, and the application will be more quickly made allowable.

As of yet, the examiner has not searched outside the classifier-wheel arts. The examiner assures the applicant that a disk with a central opening and a thickened lip/rim exists outside the classifier-wheel art, and will not hesitate to find evidence of such if the applicant amends claim 1 to only include these limitations.

The diameter of the circular opening is also accomplished with a centrifugal value. At high rotation speeds, the opening will be slightly larger than at slow speeds.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-9, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by either of references 2,754,967 or 2,367,906.

Both references teach air classifiers which utilize replaceable disks with openings to control the airflow. The fasteners are bolts and/or screws and/or clamps (as a screw is actually the simplest form of a clamp).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-9, 10-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over 4,786,406 in view of 2,367,906.

4,786,406 (hereafter referred to as Nied) teaches a simple air classifier, which is known to be common in the current state of the art. A classifier wheel with an upper disk and a lower disk (in these particular instances, the wheels are utilized on a horizontal axis), wherein the lower disk has a central opening which bottlenecks the fines-out flow through the wheel. The size of this opening, as any engineer would know, controls the flow through the wheel. However, Nied does not mention a removable disk.

The use of replaceable disks with variably-sized openings to control the flow through a circular outlet of a classifier wheel has been known in the art for over 50 years. The examiner found in excess of 20 references which utilized a clamp-in or screw-in disk to limit the flow through the fines-outlet of a classifier wheel, but the disks are usually attached to the non-rotating exit-conduit elements downstream of the wheel opening. The examiner asserts that it would be obvious to one of ordinary skill in the art to utilize the disk *on* the classifier wheel as an obvious alternative to placing it downstream of the wheel bottom. The disk (21) of '406 itself is adequate for rejecting many of these claims, but the combination with '906 is being made to form a more comprehensive, general rejection.

There does not seem to be much difference between using the disk on the wheel and using the disk downstream of the wheel. The criticality to distinguish this feature is not established to the point of patentability.

Classifier-wheels of this type can be used with either a horizontal axis of rotation or a vertical one. The components, control, and flow criteria of the two, however, remain mostly the same. A classifier wheel is a classifier wheel.

The inclusion of sizes, flow-rates, particle-sizes, particles to be separated, weight averages, etc., do not patentably define the claims over the art. Classifiers have been used for over a hundred years to sort particles entrained in air. The above values are design-criteria based upon output requirements, materials to be sorted, etc.

### ***Conclusion***


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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel K Schlak whose telephone number is 703 - 305 - 0885. The examiner can normally be reached on Mon-Thurs.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308 - 1113.

dks  
March 12, 2001

  
DONALD P. WALSH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600